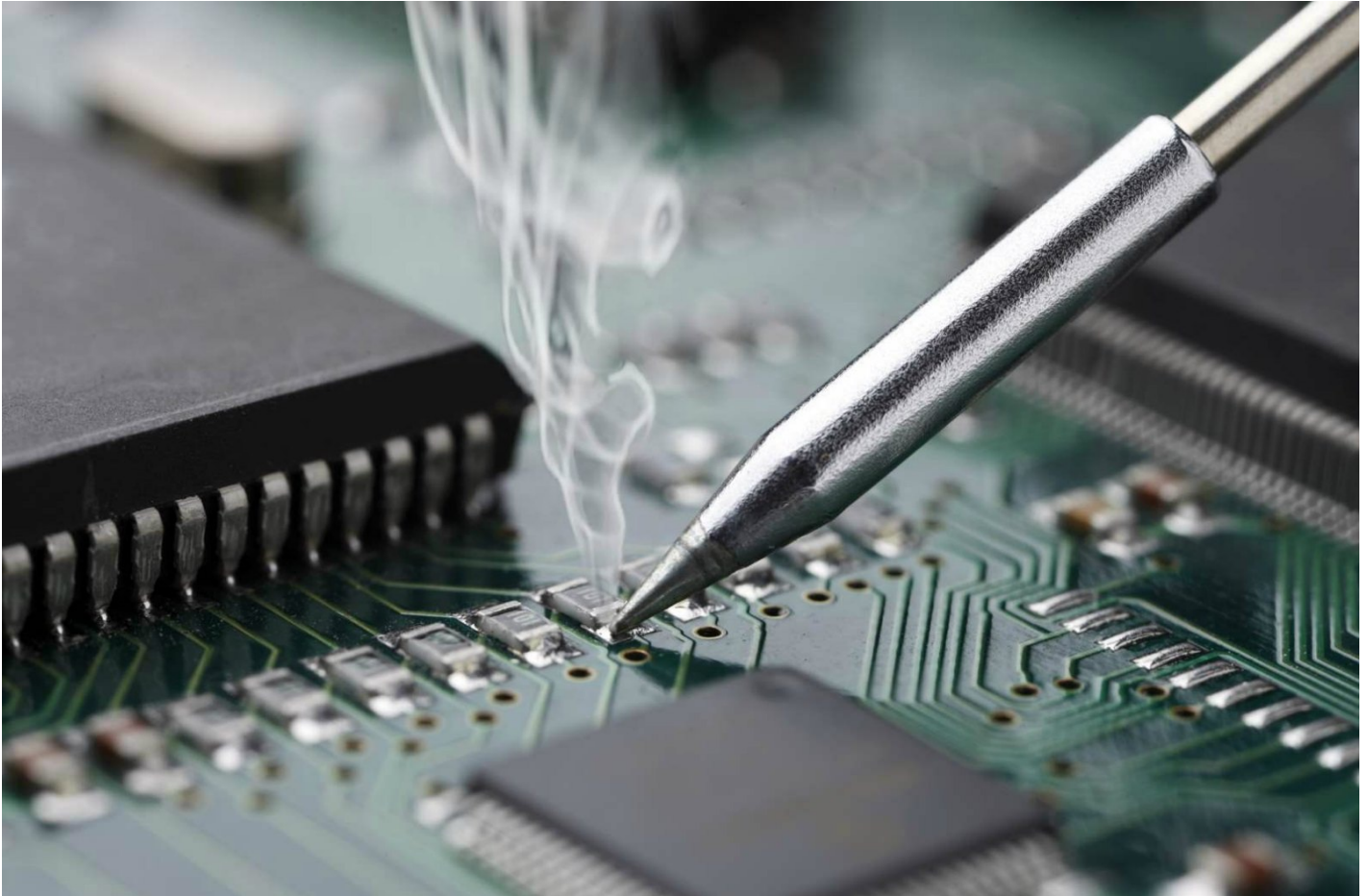


## Lead-Free Solder Makes Electronics Production Safer

Iowa State University  
Sandia National Laboratories



Because of its harmful impact on human health and the environment, lead has been removed from many commonly used products. However, lead-based solder is still used in the manufacturing process, especially for electronics. Discarded computers, cell phones, and other electronic devices are a major source of lead contamination in landfills.

In partnership with Sandia National Laboratory in New Mexico, Iowa State University-Ames researchers patented a new type of lead-free solder technology in 1996. Funding was provided by the Department of Energy and the Iowa State University Research Foundation.

“ *The tin-silvercopper solder has superior performance characteristics compared to other lead-free alternatives on the market, such as a lower melting temperature and greater strength.* ”

These properties are especially important in prolonged high-heat conditions, such as those found in computers and cell phones.

Besides protecting the environment, eliminating lead from the solder used in manufacturing makes companies more competitive in the global marketplace. For example, Europe strictly limits the amount of lead and other hazardous materials contained in electronic appliances, and a similar initiative is being considered in Japan. Accordingly, Iowa State University's technology is gaining international interest. To date there are 61 licenses in 16 different countries.

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